SUBJECT INDEX TO VOLUME 39, 1993

[A]

acid tolerance 529
agar immobilization 251
alcohol oxidase of methanol-utilizing yeast 439
5-aminolevulinic acid biosynthesis 513
aneuploidy 295
anions 597
Aquaspirillum spp. 547
arginine and proline regulation of heterocyst and nitrogenase in *Anabaena* 355
ascomycetous yeasts 1
astaxanthin-producing yeast 303
ATPase 529
attachment site 479
auxotrophic mutants 303
azorhizobium 339

[B]

Bacillus subtilis 453, 583
Bacillus subtilis chromosome 321
Bacillus subtilis (*natto*) 75
bacteriophage 429
bacteriophage M2 467
ballistosporous yeasts 107
basidiomycetous yeasts 1, 257, 295
blue-green algae 247
Bradyrhizobium 339
Brochothrix thermosphacta 327

[C]

C_5 pathway of ALA biosynthesis 513
Candida sp., colchicine treatment of 439
cell-wall sugar 505
cellular ATP 247
cellulase activities, of diploid strain 443
cellulase-inducible fusant 443
cellulose-binding protein 361
cellulose-binding proteins (CBPs) 273
characteristics of *Rhizopus* 541
characterization 91
chemotaxis 371
chemotaxonomy 505
Chlorella 313
Chlorella vulgaris 529
chloroplast origin 313
colchicine, treatment of methanol-utilizing yeast by 439
colony-forming time 65
contact angle 381
continuous culture 35
coryneform bacteria 505
coryneform bacteria identification 215
coryneform bacteria numerical classification 135
Cu-toxicity 529
Curvularia lunata var. *aeria* 251
cyanobacteria 247
cyclic AMP 247
cyclic AMP (cAMP) 493
cytofluorimetry 295

[D]

"dan-douchi" *Bacillus* 75
differential scanning calorimetry 597
DNA polymerase 467
DNA replication 467

[E]

electroporation 285
endochitinase 91

[F]

fermented vegetable 395
fiber digestion 35
Fibrobacter succinogenes S85 .....273, 361

[G]

G-418 resistance 285
gene cloning 453
gerK 453
glucoamylase 541
glutamine uptake by *Anabaena cycadeae* .. 57
γ-glutamyltranspeptidase 75
glycerol accumulation 493
grassland soil bacteria 65
α- and β-group 547
growth rate 65, 381
guanosine 5′-O-(3-thiotriphosphate) (GTPγS) 493

[H]

Halobacterium salinarium 513
halophilic lactic-acid bacterium 429
high performance anion-exchange chromatography 1
hydrophobicity 381

[I]

industrial yeast 285
integration 479

[K]

killer property 101

[L]

lactic acid fermentation 395
Lactobacillus 395
S-layer 547
lectin-developmental appearance of 83
Leucosporidium lari-marini 257
lipopolysaccharide (LPS) 547
lysis 419
lysogenic phage 479

[M]

Mamiellales 571
mannitol-1-phosphate dehydrogenase 327
methanol-utilizing yeast 439
minus origin 237
molecular phylogeny 107
mutagenesis 303
mutational analysis of plus origin 237
Myrothecium verrucaria 91
myxobacteria 419
Myxozyma nipponensis 521

[N]

Nostoc muscorum 559
nuclear DNA content 295
nucleotide sequence 453
nucleotide sequence analysis 321
nystatin enrichment 303

[P]

Pediococcus halophilus 429
Phaffia rhodozyma 303
phosphatases 559
phosphofructokinase 327
phosphorus metabolism 559
phosphorylated hexitol 327
phylogenetic diversity 339
phylogeny 1
phylogeny of chlorophyte 313
plasma membrane ATPase 493
plasmid distribution 75
plasmid pKYM 237
Pleurotus cornucopiae 83
plus origin 237
polygaracturonase 409
γ-polyglutamate production 75
polyphosphate bodies 559
Prasinococcus capsulatus 571
Prasinophyceae 571
prasinoxanthin 571
properties of polygaracturonase 409
Propionibacterium shermanii 513
proteobacteria 547
psychrophilic marine bacteria 371
psychrophilic *Vibrio* 371
purification 91

[R]

radish tap root fermentation 395
Rarobacter faecitabidus 261
Rarobacter incanus sp. nov. 261
raw starch digestion glucoamylase 541
redox balance 327
replication via rolling-circle mechanism 237
respiration 247
Rhizobium 339
Rhizobium leguminosarum biovar *trifolii* 479
Rhizobium leguminosarum biovar *viciae* 479
Rhizopus 409, 541
Rhizopus cultivation 409
Rhodotorula 419
rifamycin B 251
rifamycin oxidase 251
rifamycin S 251
18S rRNA of yeasts 107
rumen microorganisms 35

[S]

secA 583
selection of *Rhizopus* 541
septal pore 257
sinki 395
soil bacteria 381
soy sauce 429
Spirulina platensis 247
spore germination gene 453
sporulation 583

ssu rRNA 313, 339
stepwise melting of DNA 597
surface charge 65
survival and antibiotic resistance of bacteria 47
systematics 257, 295
systematics of yeasts 107

[T]
tetracycline-resistance gene 321
thallism and ploidy 101
transfer, of cellulaces into *Aspergillus kawachii* 443
transformation method 285

[U]
ultrastructure 257

[W]
wine yeast 101

[Y]
yeast cell wall sugars 1
yeast-lysing bacteria 261
yeast taxonomy 107

[Z]
Zygosaccharomyces rouxii 493